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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,910	03/13/2002	Florence L'Alloret	220757USOPCT	2997
22850	7590	05/17/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FUBARA, BLESSING M	
			ART UNIT	PAPER NUMBER
			1618	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/070,910		L'ALLORET, FLORENCE	
	Examiner		Art Unit	
	Blessing M. Fubara		1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-53 is/are pending in the application.
- 4a) Of the above claim(s) 29,31 and 42-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-28,30,32-41 and 46-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/4/06, 5/13/02, 9/2/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner acknowledges receipt of request for extension of time, amendment and remarks filed 2/21/06 and IDS filed 4/4/06. Claims 26-53 are pending. Claims 29, 31 and 42-45 are withdrawn from consideration. Claims 46 and 48 are amended.

Claim Rejections - 35 USC § 112

1. The rejection of claim 46 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in view of the amendment.
2. The rejection of claim 48 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in view of the amendment to the claim to recite a temperature range.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 26-28, 30, 32-41 and 46-53 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Torgerson et al. (US 5,730,966).

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Claim 26 is directed to a polymer that comprises water soluble units and LCST unit; the LCST units consist of N-vinylcaprolactam homopolymers or copolymers with the LCST units present in the polymer at a range of from 5% to 70%; the polymer can be a block polymer or a graft polymer; the backbone of the graft polymer is formed from water soluble units bearing LCST grafts; the polymer is optionally cross-linked; the polymer is obtained by reacting the reactive sites of the LCST with the reactive sites of the water soluble polymer units. The water-soluble polymer is further defined by the dependent claims by the process of making the polymer. Claim 30 defines the molar weight of the water-soluble polymer. Claim 32 defines the molar weight of the LCST. Claim 34 defines the proportion of the LCST units in the polymer. Claim 35 defines the temperature range of the LCST units when the amount of the LCST units is of 1%. The solubility of the polymer at 20 °C is defined by claim 36. A composition prepared from the polymer of claim 26 has maximum transmittance at wavelengths of from 400 nm to 800 nm in claim 37. Claims 38-41 are composition claims, the composition of claim 38 comprises at least one polymer of claim 26; the polymer is present at an amount of from 0.01% to 20% by weight in claim 39; the compositions of claims 40 and 41 recite the intended use of the composition. The LCST is one or more of monoamino derivative copolymer, diamino derivative copolymer and triamino derivative copolymer. Claim 46 is dependent on claim 33, which is dependent on claim 26, now requires that the LCST, which is specifically N-vinylcaprolactam in claims 26 and 36, be monoamino derivative copolymer, diamino derivative copolymer and triamino derivative copolymer. The amount of the LCST in claim 34 is the range of 30% to 60% by weight (claim 47). The heat induced demixing temperature of a 1% LCST of claim 35 ranges from 10 °C and 35 °C (claim 48). The solubility

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of the polymer of claim 36 is 20 g/L at 20 °C (claim 49). The water-soluble polymer of claim 26 is made up of acrylic units and the LCST is N-vinylcaprolactam (claim 50). The composition of claim 37 has a maximum light transmittance of at least 85% (51). The polymer of claim 26 is linear (claim 53).

Torgerson discloses thermoplastic elastomeric copolymers for cosmetic and pharmaceutical uses (abstract) and although, future intended use has no patentable weight in a composition claim, it is noted that the composition of both the prior art and the claimed invention have similar/the same utility and thus the limitation of the claimed invention directed to the utility of the composition or to the future intended use of the claims is met by Torgerson.

Torgerson discloses water or alcohol soluble or dispersible thermoplastic elastomeric copolymer having a backbone and two or more pendant side chains (column 2, lines 37-42) and the copolymer comprises from about 40% to about 90% by weight of A units, the A units are polymerizable (column 2, lines 43-45; column 5, lines 63-67) and from about 10% to about 60% by weight of B units, the B units are hydrophilic macromonomer units that are copolymerizable with the A units (column 2, lines 46-50; column 6, lines 1-4). In one embodiment, the thermoplastic, elastomeric copolymer having a backbone and two or more polymeric side chain has random repeating units of A and B (column 2, lines 57-67) and the copolymer has a solubility of 20 mg/ml to 100 mg/ml at 25 °C (column 4, lines 42-51). To name a few, the A monomers are selected from the group consisting of acrylic acid, methacrylic acid, isobutyl acrylate, n-butylmethacrylate, vinyl pyrrolidone, vinyl caprolactam, hydroxyethyl acrylate and N,N-dimethylaminoethyl acrylate and mixtures thereof (column 8, lines 16-67). The B units are composed of the hydrophilic units' selected from N-vinylpyrrolidones, vinylimidazoles,

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vinylcaprolactams, vinylfurans, and N-alkyloxazolines and structural units selected from vinyl, allyl, acryloyl, propenyl and chemical initiator or solvent (column 10, lines 16-65). The copolymers of Torgerson is formulated into hair or topical skin composition in the form of gels, lotions, tonics, sprays shampoos and others listed in column 14, lines 26-35. Torgerson's formulation further comprises carriers (column 14, line 39 to column 15 line 31), pharmaceutical actives (column 17, line 52 to column 19 line 4), conditioners (column 19, lines 6-44), humectants and moisturizers (column 19, lines 46-63), surfactants (column 19, line 65 to column 21 line 35), thickeners (column 21, lines 39-65), cross-linking agent (Column 22, lines 19-33), emulsifiers (column 22, line 56 to column 23 line 22), emollients (column 23, lines 24-36).

Torgerson discloses that the molecular weight of the A and B units are selected to provide applicability of the formation as it regards acceptable viscosity, processing, aesthetic and formulation compatibility (column 6, lines 6-17) and the formulation contains thickening agent.

Regarding the LCST present at from 5% to 70%, a specific point in the amount of about 40% to about 90% would coincide with a point in the applicants' claimed 5% to 70%.

Regarding optional cross-linking, it is noted that the prior art need not disclose cross-linking agents or cross-linking since cross-linking is optional. However, Torgerson discloses cross-linking as described above. The LCST of the claims is vinylcaprolactam and Torgerson discloses A units that can be vinyl caprolactam and thus a 1% solution/dispersion of vinylcaprolactam of the prior art would have the temperature range recited in the claims and the transmittance, a property that is specific to specific concentration of solute in a solution at some specified optimum wavelength. A 40-90% of A unit of Torgerson encompasses the 30-60 recited in claim 47.

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Regarding the process of preparing the polymer, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The composition of the prior art and the instant claims are both used as cosmetic. Torgerson does not specifically disclose a polymer comprised of N-vinylparolactam and acrylate polymer. The A units and the B-units are disclosed by Torgerson and it would have been obvious to one of ordinary skill in the art at the time the invention was made to select A and B units from the disclosure of Torgerson that would form the copolymer of Torgerson with the expectation of forming a polymer that is used in cosmetic formulation. The different species of A and B units are listed as being equivalent in Torgerson.

Response to Arguments

Applicant argues that Torgerson's is a graft polymer while the claim 26 is block copolymer and that in Torgerson A and E units are copolymerized and these copolymerized units are randomly distributed through the backbone and not in blocks so that "even if one were to simply pick and choose the appropriate monomers, the monomers would not be arranged as a block copolymer as set forth in the claims following the description of Torgerson."

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5. Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive.

Regarding the argument about the claims of Torgerson vs the disclosure of Torgerson, it is noted that in consideration of a reference as prior art, the whole reference, the description, drawings and the claims are considered. Regarding claim 26 being directed to block copolymer and Torgerson disclosing graft polymer, it is noted that the polymer in claim 26 is either block copolymer or graft polymer. Thus, Torgerson does not teach away from claim 26 by disclosing graft polymer. It is further noted that in the later part of the argument, page 13, second full paragraph, applicant appears to be saying that Torgerson claims block copolymer which may support Torgerson as disclosing block copolymer and again not teaching away from claim 26. There is not a picking and choosing because there is disclosure and the list in Torgerson is not exhaustive as to require inordinate number of combinations.

Applicant argues that Torgerson does not disclose water-soluble backbone with LCST grafts and that Torgerson describes water-soluble monomers as imparting water-solubility to the polymer and that Torgerson describes “ an elastomeric or flexible backbone and rigid, thermoplastic, hydrophilic side chains.”

6. Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive.

Regarding water-soluble and LCST, it is noted that applicant describes N-vinylcaprolactam as a polymer that is water soluble and having a temperature of LCST (see instant abstract, at least). Thus, the N-vinylcaprolactam disclosed by Torgerson meets the limitation of LCST. A description in Torgerson as quoted by applicant as “ an elastomeric or flexible backbone and

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rigid, thermoplastic, hydrophilic side chains” does not negate Torgerson’s disclosure of N-vinylcaprolactam.

Applicant argues that one cannot choose the monomers of Torgerson to build the polymer as claimed by Torgerson.

7. Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive.

Torgerson claims one or certain embodiments of the described invention. A reference is considered in its entirety when considering the reference as prior art. Thus the claims, the disclosed description and the figures or drawings if any form the basis for the consideration as prior art. Torgerson disclosure as discussed above renders obvious the claimed invention; and it is not just the embodiments in the claims that were considered.

Applicant further argues that the Torgerson does not provide for selecting N-vinylcaprolactam as the LCST unit in a polymer alternating with a water soluble units or as a graft on a water soluble backbone and that Torgerson’s 40-90% with a preferred range of 60-80 for A, and 10-60% with a preferred 20-40% for B does not provide for 5-70% LCST.

8. Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive.

The disclosure of Torgerson suggests a polymer that comprises N-vinylcaprolactam as discussed above in the rejection. The 40-90% with a preferred range of 60-80 for A, and 10-

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60% with a preferred 20-40% for B as stated by applicant in the argument encompasses and overlaps with the claimed broad range of 5-70%.

Applicant concludes that the various options of Torgerson would result in thousands of possible combinations and none would be the block copolymer of the invention.

9. Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive. The options suggested by Torgerson are would not produce thousands of possible combinations.

In summary applicant's argument centers on the fact that Torgerson lists a number of species of A units and B units and that it would be picking and choosing from the list to come up with the claimed invention. This argument is not persuasive as it applies to the 103 rejections. It will be obvious to select from the group of A and B to form a polymer that is used for cosmetic formulation. Both the prior art and the claimed invention are in the same field of cosmetic formulation and the A units and B units are equivalent as listed by Torgerson.

No claim is allowed.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is (571) 272-0594. The examiner can normally be reached on 7 a.m. to 5:30 p.m. (Monday to Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Blessing Fubara
Patent Examiner
Tech. Center 1600

A handwritten signature in black ink, appearing to read 'B. Fubara', is written over the printed name of the examiner.